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STUDIES OF PERUVIAN BIRDS. NO. 52

THE GENERA *SERICOSSYPHA*, *CHLOROSPINGUS*, *CNEMOSCOPUS*, *HEMISPINGUS*, *CONOTHRAUPIS*, *CHLORORNIS*, *LAMPROSPIZA*, *CISSOPIS*, AND *SCHISTOCHLAMYX*

BY JOHN T. ZIMMER

I am again greatly indebted to Mr. Emmet R. Blake of the Chicago Natural History Museum; Messrs. James Bond and Rodolphe de Schauensee of the Academy of Natural Sciences of Philadelphia; Dr. Herbert Friedmann of the United States National Museum; Mr. William H. Phelps of Caracas, Venezuela; and Mr. W. E. C. Todd of the Carnegie Museum, Pittsburgh, for the loan of critical specimens and notes on material in the various institutions, which have been very helpful in the studies presented herewith.

Names of colors are capitalized when direct comparison has been made with Ridgway's "Color standards and color nomenclature."

Sericossypha albo-cristata (Lafresnaye)

Tangara (Lamprotes) albo-cristatus LAFRESNAYE, 1843 (May), Rev. Zoöl., vol. 6, p. 132—Colombia; [♂]; Mus. Comp. Zoöl., Cambridge.

Sericossypha somptuosa LESSON, 1844 (Aug. 15), Echo du Monde Sav., 11me ann., 2me sem., no. 13, col. 302—"le Pérou à Quito"; [♂]; Abeille Coll., Bordeaux.

Chachapoyas, 2 ♂; Cumpang [Compan], 1 ♀; Tendalpata, Vitoc, 1 ♀.

This beautiful species shows no apparent differentiation throughout its range from eastern Colombia to central Perú. Additional Peruvian records are from Tamapampa, [above] Huayabamba, near Huallama, Tambo de Aza, and (sight record) Ray-Urmana.

The systematic position of *Sericossypha* needs to be confirmed by anatomical studies for which I do not have the necessary material. The habits of the bird

are said to be like those of the chatterers (Cotingidae), and several authors have suggested its position in that family, which the "nine-primaried" wing will not permit. Its general appearance also is cotingine, which may be taken as an expression of the extreme variability of the tanager family. The scutellation of the tarsi is unusual since there are prominent quadrate scales on the outside of the distal portion of the planti-tarsi, sometimes halfway towards the heel, a condition I have not seen in other tanagers. The nostrils are rounded and non-operculate, and the rictal bristles are weak. Some of these features show resemblance to the characters of the Icteridae, but the general shape of the bill is far from typically icterine, although certain genera like *Oreopsar* and *Gnorimopsar* show a degree of similarity.

The east-Brazilian species, *loricata*, usually placed in a separate genus, *Compsothraupis*, agrees with *albo-cristata* in these various external morphological characters and disagrees principally in having the nostrils exposed, but the covered nostrils of *albo-cristata* are hardly more than a natural consequence of the dense cap of the species and not of generic value. I believe, therefore, that *Compsothraupis* should be submerged and the east-Brazilian species called *Sericossypha loricata* (Lichtenstein). This species suggests some of the Icteridae in general coloration as well as in the morphological characters mentioned. At any rate, *Sericossypha* is in need of internal examination which may confirm its place in the Thraupidae or show that it has other affinities elsewhere,

Chlorospingus ophthalmicus

A review of most of the known forms of *Chlorospingus ophthalmicus* and *C. flavopectus* and several other supposedly distinct species leads me to believe that there are fewer species involved than has been supposed. It is admitted that the *flavo-pectus* group appears to be distinguishable from the restricted *ophthalmicus* group by the lack of the white postocular spot and, as far as most South American representatives are concerned, by the lighter, less blackish crown. *C. o. nigriiceps*, however, has no white behind the eye, except for an occasional slight trace, and there is a similar trace in some examples of the *flavo-pectus* assemblage. Furthermore, the top of the head in *C. o. jacquetti* is a good match for that in the *flavo-pectus* group, and that of *C. o. argentinus* is still lighter, though brownish, while different Central American representatives show various tones of gray, black, and brown, depending on the subspecies. There is not a single character of specific value in the entire assemblage. These birds all agree in general proportions, shape and size of bill, and basic pattern of coloration, and they replace each other geographically. As far as *ophthalmicus* and *flavo-pectus* are concerned, there certainly is no more than one species to be considered. The subspecific distinctions involve only different combinations of postocular pattern and hue of cap. It is interesting to find the combination of light head and absence of postocular white occurring in eastern Colombia, eastern Ecuador, and eastern Perú, with that of dark head and postocular white (and other combinations) both north and south of this elongated area, but the interrupted distribution of the latter combination of characters is not a specific criterion.

Plotting the ranges of the different forms concerned shows a considerable hiatus in various parts of Perú where some representative should occur. Part of this hiatus is occupied by *cinereocephalus* which has been kept specifically separate from both *ophthalmicus* and "flavo-pectus," although Hellmayr (1936, Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 9, p. 417) placed it as a subspecies of *semifuscus*,

with which arrangement I am not prepared to agree. I find *cinereocephalus* differing from the *ophthalmicus-flavo-pectus* assemblage only by the absence of the yellowish green breast band, and even this band is definitely suggested by a greenish tinge on the sides, sometimes faintly indicated towards the center of the breast. The white postocular spot is usually absent but also sometimes limitedly present. There is no reason why this form should not be placed in the *ophthalmicus* group, although it shows an extreme variation in a certain direction. This still leaves northern Perú without a known representative, but I should not be surprised if future workers in the area should discover a resident from there.

Another hiatus occurs in eastern Panamá, but I believe it is filled in part by *tacarcunae* which Hellmayr (*op. cit.*, p. 410) considered as conspecific with *flavigularis*. I find Hellmayr's assignment untenable. Outside of a certain similarity in the uniform green color of the upper parts, there is little resemblance. The Panamá bird has quite different proportions, a different bill, a somewhat speckled throat, a dusky malar band, strongly greenish flanks, and, in one example, a small streak on the posterior part of the upper eyelid and behind the orbit (yellow in this case and not white, but in the exact position of the white marking in some forms of *ophthalmicus*). All of these features show close agreement with the *ophthalmicus* group, although *tacarcunae* has the cap green like the back and the throat yellow like the breast (as in immature examples of some of the other forms), the opposite extreme of variation from that shown by *cinereocephalus*. I believe that *tacarcunae* belongs in this same group. It is not allied to *flavigularis*.

The resemblance of *punctulatus* of central Panamá to the *ophthalmicus* group is so positive that I do not see how it can have been overlooked as a conspecific unless through lack of material or because of a suspicion of overlapping ranges. It has all the general characteristics of the black-headed forms with white postocular patch and resembles *venezuelanus* in the color of the

breast, *eminens* in the blackness of crown, and *nigriceps* in the spotting of the throat, although this spotting is even more pronounced than in *nigriceps*. It is also somewhat more brownish or golden green on the back than any of the others. These characters are all of degree, not of kind. As far as conflicting distribution is concerned, I can find no such conflict. There is a broad hiatus to the eastward before the range of *tacarcunae* is reached, while to the westward *novicius* is found in the Chiriquí region beyond the range of *punctulatus* in the Veraguas sector.

The separation of *novicius* and *regionalis* is not sharp and it is difficult to say where the line should be drawn. The material at hand from southwestern Costa Rica appears to be inseparable from the rest of the Costa Rican specimens of *regionalis* and not to belong with the Chiriquí population of *novicius*. Some of the Chiriquí birds, themselves, agree well enough with *regionalis* to present a problem in distinction, although others are darker-capped in what presumably is a trend towards *punctulatus*. Nicaraguan birds are *regionalis* and not *honduratus* as sometimes asserted. The correct relationship was determined by Underdown (1932, *Ibis*, ser. 13, vol. 2, p. 648). The throat averages less heavily spotted than in Costa Rican examples, but there are various exceptions.

The situation in Guatemala is not clear. Three forms have been described from that country, of which I have only two represented in the material before me—*postocularis* and *dwighti*. They appear to be in much the same position as *novicius* and *regionalis*. While *postocularis* is recognizable in well-marked examples by its uniformly dark pileum and larger size, about half of the specimens from the accepted western range of this form have decided lateral stripes on the crown, darker than the median area. A series of trade-skins combines this head pattern with the larger dimensions of *postocularis*, and the specimens are hence quite unassignable to one form or the other. I can see no differences in the extent of the white postocular spot.

Returning to South America, I have commented elsewhere (1946, *Jour. Washington Acad. Sci.*, vol. 36, p. 390) on the surprising agreement of birds from Santander, Colombia, with *jacquetti* of the Lara region of Venezuela. It is hoped that more material may become available from Santander to clarify this apparent similarity.

In Bolivia, the range of *argentinus* shows a curious extension. While *flavicularis* occupies an area in the northern part of the Cochabamba region (in the Mamoré drainage as far east as Samaipata, the type locality), it remains on the northern side of the Andean spurs in that area. *Argentinus* reaches the southern side of those same spurs in the upper reaches of the Río Mizque that also flows into the Mamoré system after a roundabout course far to the eastward. The western form, *boliviensis*, was described from San Cristóbal which appears to be somewhere near the eastern end of the range of that form. Thus three subspecies are known from the Cochabamba area although they do not encroach on one another: *boliviensis* to the westward on the northern slopes, *flavicularis* also on the northern slopes but to the eastward, and *argentinus* on the southern slopes, extending into northern Argentina.

Several related forms should, perhaps, be mentioned, although they are probably best kept specifically distinct. *C. inornatus* of Mt. Pirri, eastern Panamá, I believe was derived from the *ophthalmicus* group, but it has developed enough peculiarities to entitle it to specific rank.

Chlorospingus s. semifuscus and *C. s. livingstonii* of northwestern Ecuador and southwestern Colombia, respectively, have several points in common with the *ophthalmicus* group and probably also were derived from it. There is an apparent conflict in the ranges of *semifuscus* and *phaeocephalus* that will need to be resolved before conspecific relationship can be seriously considered. Goodfellow and Hamilton recorded *semifuscus* from eastern Ecuador and *phaeocephalus* (misidentified as "*flavicularis*") from Gualea, while Ménégaux

recorded the latter from Gualea and Mindo where *semifuscus* is known to occur.

In *phaeocephalus*, itself, there is still a problem that requires solution. The original figure of this bird (Sclater and Salvin, 1877, Proc. Zool. Soc. London, p. 521, pl. 52, fig. 2) is hardly recognizable as a delineation of the population to which it has been assigned. The entire throat, with the exception of a minute chin spot, is pictured as dark olive green like the breast, and a pale brown stripe is shown broadly behind the eye. These characters cannot be found in any species of *Chlorospingus* with which I am acquainted. Nevertheless, Sclater (1886, Catalogue of the birds in the British Museum, vol. 11, p. 243) remarks on the similarity of *phaeocephalus* to "flavipectus" [= *flavo-pectus*] from which it is said to differ by its darker, unspeckled throat and much less bright breast and flanks. The throat in the Ecuadorian form of *ophthalmicus* is actually more heavily speckled than it is in *flavo-pectus*, but the color of the breast and flanks is darker than in that form. Sclater includes in "flavipectus" a specimen from Jima, the type locality of *phaeocephalus*, which suggests that the resemblance probably is very close. The plate, therefore, presumably is in error.

I find some differences in the series of *phaeocephalus* now before me, but without topotypical material I am unable to determine to which part of the series the name can be properly restricted. Two examples from Sumaco are somewhat more yellowish olive on the breast than seven birds from southwestern Ecuador, although darker than *flavo-pectus*, none of which are so dark as the original plate. A single specimen from Gualea is even brighter yellow on the breast than the Sumaco specimens, although not so light as *flavo-pectus*, while the top of the head is lighter brown than in the Sumaco birds but not so gray as in *flavo-pectus*.

There are thus two, and possibly three, separable populations indicated in the small series available, but more material from northern and central Ecuador, from both sides of the Andes, is needed for an adequate study. Until this is available,

I refer all Ecuadorian records to *phaeocephalus*.

Ten examples secured by Mr. E. Thomas Gilliard on his expedition to Mt. Macarena, eastern Colombia, show sufficient distinction from *flavo-pectus* to deserve separate recognition and may be known as follows.

***Chlorospingus ophthalmicus macarenae*,
new subspecies**

TYPE: From Mt. Macarena, Colombia; plateau at 411 feet elevation. No. 748394, American Museum of Natural History. Adult male collected January 24, 1942, by E. T. Gilliard.

DIAGNOSIS: Nearest to *C. o. flavo-pectus* of the Eastern Andes of Colombia, but top of head slightly darker, throat deeper buff and more heavily speckled with dusky, breast and sides a little deeper yellow, and belly more purely white, less clouded with grayish.

RANGE: Apparently restricted to Mt. Macarena, eastern Colombia.

DESCRIPTION OF TYPE: Top of head slightly browner than Deep Mouse Gray; back deep Warbler Green. Lores dusky with a faint pale marking on upper border; a blackish stripe from lores posteriad over auriculars, separated from the crown by a dark grayish postocular stripe only a little paler than the crown; chin, throat, and malar region light Pinkish Buff with small but moderately prominent, wedge-shaped spots at the tips of the feathers, strongest laterally where also the buff color is deeper; breast near Primuline Yellow, greener on the sides and with a slight greenish tinge on the lower border; flanks Pyrite Yellow; under tail-coverts similar but margined broadly with Strontian Yellow. Remiges near Chaetura Drab with outer margins of all but the outermost primary near the color of the back, broadest on the tertials; outer margin of outermost primary dull drab, a little greenish basally; exposed portions of upper wing-coverts like the back; under wing-coverts whitish, faintly yellowish along carpal margin; inner margins of remiges largely whitish. Tail somewhat rounded; rectrices near Chaetura Drab with outer margins like the

back and with the inner webs of the median pair tinged with the same green. Bill (in dried skin) black; feet horn brown. Wing, 66 mm.; tail, 59; exposed culmen, 11; culmen from base, 14.5; tarsus, 22.

REMARKS: Female like the male but smaller. Wing, 62.5, 63; tail, 54.5, 65.

One example, sexed as a possible male, has the top of the head and the postocular area strongly tinged with dark green, and there are a few whitish feathers on the upper posterior border of the orbit. The specimen appears to be adult.

Chlorospingus ophthalmicus peruvianus Carriker

Chlorospingus flavipectus peruvianus CARRIKER, 1933 (Mar. 24), Proc. Acad. Nat. Sci. Philadelphia, vol. 85, p. 35—Ocoteque, Perú; ♂; Acad. Nat. Sci. Philadelphia.

This form very closely resembles *C. o. flavipectus* and *macarenae*, having the top of the head dark as in *macarenae* and the throat relatively whitish as in *flavipectus*, but the breast lighter yellow than in either. It lacks the prominent white postocular marking, as may be supposed from its original inclusion in "*flavipectus*," although one male shows a tiny indication of it.

The range of this form, like that of some other subspecies, appears to be quite limited since *bolivianus* occurs in the La Paz region of Bolivia and *cinereocephalus* in the Junín region of Perú. No form of the species is known from the Urubamba Valley where one should eventually be found. The allied species, *flavigularis*, ranges through this entire region, including the Urubamba area.

Additional records include La Oroya in the list of localities.

Chlorospingus ophthalmicus cinereocephalus Taczanowski

Chlorospingus cinereocephalus TACZANOWSKI, 1874, Proc. Zool. Soc. London, p. 132—Chilpes, Perú; ♀; Warsaw Mus. (?now lost).

As noted in the general review of the species, this form represents one extreme of coloration in the group, since it has the breast buff instead of bright yellow or green although with a variable greenish tinge on the sides and sometimes a faint suggestion of it medially. The top of the

head is relatively light colored (about as in *flavo-pectus*), and there is no pronounced white behind the eye, although three out of the four specimens at hand show slight traces of it.

This form, like *peruvianus*, appears to be quite restricted in distribution and is known only from the Junín region. Other records are from Tambo de Aza, Maraynioc, in the same general region as the type locality, at a little higher elevation.

These two forms comprise the only known Peruvian forms. There is, as stated on an earlier page, a wide hiatus in northern Perú where the species has not been found, while *phaeocephalus* of Ecuador appears to remain beyond the Peruvian boundary. It is probable that some representative of the species will be found in suitable terrain between the Junín region and the Ecuadorian frontier, but it has yet to be discovered. Considering the quantity of material that has been assembled at various times by different workers in the region, it is surprising that a member of the group has not been discovered to date.

SPECIMENS EXAMINED

C. o. ophthalmicus.—

MÉXICO:

Jalapa, 5 ♂, 2 ♀;
Potrero, 1 [♂], 2 ♀.

C. o. dwighti.—

GUATEMALA:

Finca Sepur, 1 ♂ (type), 2 ♀;
Finca Sepacuite, 6 ♂, 4 ♀, 2 (?) .

C. o. postocularis.—

GUATEMALA:

San Lucas, 1 ♂;
Nebaj, 1 ♂;
Antigua, 1 ♀;
Barrillos, 1 ♀;
Santa Ilania, 1 (? ♀).

C. o. postocularis × *dwighti.*—

GUATEMALA: 4 (? ♂), 3 (? ♀), 1 (?).

C. a. honduratus.—

HONDURAS:

Cerro Cantoral, 2 ♂, 2 ♀.

C. o. regionalis.—

NICARAGUA:

(San Rafael del Norte, Ocotal, Matagalpa),
12 ♂, 6 ♀.

COSTA RICA:

(Aquinares, Guayabo, Bonilla, Navarro, Navarrito, Azahar, Cartago, La Honduras, Santa Maria de Dota, no locality), 15 ♂,
11 ♀, 7 (?).

C. o. novicius.—

PANAMÁ:

El Banco, Chiriquí, 1 ♂;
Boquete, 3 ♂, 1 ♀, 1 (?).

C. o. punctulatus.—

PANAMÁ:

Cordillera de Chucú, 1 ♀ (? cotype);
Chitrá, 16 ♂, 8 ♀;
Santa Fé, 5 ♂, 2 ♀;
Chiriquí, 2 (?);
"Panamá," 1 (?).

C. o. tacarcunae.—

PANAMÁ:

Tacarcuna, 1 ♂;
east slope of Mt. Tacarcuna, 5 ♂ (including type), 2 ♀.

C. o. jacquetti.—

VENEZUELA:

Galipan, 3 ♂, 4 ♀;
Silla de Caracas, 1 ♂, 1 ♀;
head of Chichirivichi Valley, 1 (?);
El Limón, 1 ♂, 1 ♀;
Mt. Bucarito, 2 (?);
Cumbre de Valencia, 3 ♂, 2 ♀;
Caripé, 4 (?);
Colonia Tovar, 2 ♂, 2 ♀;
between Colonia Tovar and El Limón, 1 [♂];
Guamito, Trujillo, 1 ♂, 1 ♀.

COLOMBIA:

Cachiri, Santander, 1 ♂, 1 ♀.

C. o. falconensis.—

VENEZUELA:

San Luis, Falcón, 1 ♂ (type)², 1 ♀.

C. o. venezuelanus.—

VENEZUELA:

(Mérida, Escorial, Conejos, Valle, Culata,
El Loro, Hechisera, "montañas sierra"),
6 ♂, 1 ♀, 5 [= 3 ♂, 2 ♀].

C. o. eminens.—

COLOMBIA:

Gramalote, 1 ♀ (type), 1 ♂³, 1 ♀³, 1 (?)³.

VENEZUELA:

Páramo de Tamá, 1 ♂.

C. o. flavo-pectus.—

COLOMBIA:

El Roble, 3 ♀;
Subia, 2 ♂, 2 ♀;
Bogotá, 13 (?);
"Colombia," 1 (?).

C. o. macarenae.—

COLOMBIA:

Mt. Macarena, 6 ♂ (including type), 4 ♀.

C. o. nigriceps.—

COLOMBIA:

Miraflores, 1 ♀ (type);
Río Toché, 1 ♂;
La Candela, 1 ♂;
El Eden, 1 ♂;
Santa Elena, 2 ♂, 4 ♀, 1 (?);
Sabanalarga, 1 (?♂);
Medellín, 1 (?♀).

¹ Specimens in Chicago Natural History Museum.

² Specimen in collection of William H. Phelps, California.

³ Specimens in Cúcuta Museum, Colombia.

C. o. phaeocephalus.—

ECUADOR:

El Chiral, 2 ♂, 3 ♀;
Salvias, 1 ♀;
Zaruma, 1 ♀;
lower Sumaco, 1 "♂" [= ♀];
upper Sumaco, 1 ♂;
Gualea, 1 ♀.

C. o. cinerocephalus.—

PERÚ:

Chilpes, 2 ♂, 2 ♀.

C. o. peruvianus.—

PERÚ:

Oconeque, 2 ♂;
below Limbani, 1 ♀;
Santo Domingo, 7 ♂, 4 ♀;
Inca Mine, 1 ♂, 1 ♀.

C. o. boliviensis.—

BOLIVIA:

Nequejahuira, 1 ♂, 1 ♀;
"Bolivia," 1 [♂].

C. o. fulvigularis.—

BOLIVIA:

Locotal, 3 ♂, 1 ♀;
Roquefalsa, 2 ♂, 1 ♀;
Incachaca, 20 ♂, 8 ♀;
California, Santa Cruz, 1 ♂;
Yungas, Cochabamba, 7 ♂, 11 ♀, 1 (?).

C. o. argentinus.—

BOLIVIA:

Tujma, 2 ♂.

ARGENTINA:

Ledesma, Jujuy, 1 ♂, 2 ♀, 1 "♂" [= ♀];

Metán, Salta, 1 ♂.

C. inornatus.—

PANAMÁ:

Mt. Pirí, 1 ♂.

C. s. semifuscus.—

ECUADOR:

Gualea, 2 ♂, 1 ♀;
Mindo, 1 ♀;
Milligallii, 1 ♂;
Papallacta, 2 ♂, 1 ♀;
Nono, 1 ♀;
Canzacota, 1 ♂.

C. s. livingstoni.—

COLOMBIA:

Cocal, 6 ♂, 1 (?);
Nóvita trail, 1 (?).

Chlorospingus parvirostris parvirostris
Chapman

Chlorospingus flavigularis parvirostris CHAPMAN, 1901 (Sept. 12), Bull. Amer. Mus. Nat. Hist., vol. 14, p. 227—Inca Mine, Perú, ♂; Amer. Mus. Nat. Hist.

I hesitate to propose specific status for a *parvirostris* group which recent authors have synonymized with *flavigularis*, but there are some facts of distributional and taxonomic details that are difficult to explain on any other basis. Chapman

himself was convinced that the characters of his *parvirostris* were overcome by individual variation and proposed the submersion of his form (1921, Bull. U. S. Natl. Mus., no. 117, p. 122), although Berlepsch and Stolzmann (1906, *Ornis*, vol. 13, pp. 82-83) had accepted it as valid. In the discussion of *C. f. marginatus* (1914, Bull. Amer. Mus. Nat. Hist., vol. 33, pp. 189-190), Chapman pointed out some of the characters of the *parvirostris* group without recognizing their import with respect to his southeast-Peruvian birds, in the belief that they were indicative of intergradation between *flavigularis* and *marginatus*.

I have 60 Peruvian specimens of the birds to which the specific name *flavigularis* has been applied, including the types of *parvirostris* and *huallagae*. These may be sharply divided into two distinct groups. One of the groups, apparently true *flavigularis*, is characterized by larger size (including the bill), lighter and clearer olive upper parts, a decidedly gray area on the lores and anterior malar region continuous with the gray chin spot, a less deeply concave posterior border to the yellow throat patch, clearer gray breast and flanks, and more broadly and clearly white belly. Seventeen birds are of this nature with the following measurements: male, wing, 76-84 mm. (average, 80.3); tail, 57.6-64.5 (average, 60.6); culmen from base, 15-16 (average, 15.5); female, wing, 73.2-77 (average, 75.8); tail, 56-60 (average, 59.4); culmen from base, 14-16 (average, 15.2). Iris (in most cases, where noted) brown or red brown.

Forty-three specimens, including the types of *parvirostris* and *huallagae*, are characterized by somewhat smaller size, darker and browner olive upper parts, no gray on the lores or anterior malar region (which areas are olive), deeply emarginate posterior border of the yellow throat patch which is sharply delimited from the green auriculars (which, in turn, often have noticeably pale shaft-stripes), the grayish chin spot commonly produced posteriad down the middle of the throat, bisecting the yellow area, the breast and flanks dull and drab, and the belly only narrowly soiled

whitish. These birds show the following measurements: male, wing, 67.9 (? wrongly sexed)-80 (average, 75.4); tail, 49-59.5 (average, 56.1); culmen from base, 12.8-15 (average, 14); female, wing, 67-71.9 (average, 69.9); tail, 51-56 (average, 52.8); culmen from base, 12-15 (average, 13.7). Iris (in most cases, where noted) gray, buff, or white.

I suspect that the type of *parvirostris* is a female and not a male as indicated on the label. Perhaps the labels of it and a paratype were transposed. The measurements of the type agree best with those of the females of the rest of the series, while the supposed female paratype is larger than any other female at hand. If this supposition is correct, the measurements of the two sexes of the small form would be as follows: male, wing, 71.80 (average, 75.6); tail, 51-59.5 (average, 56.2); culmen from base, 13-15, (average, 14.6); female, wing, 67-71.5 (average, 69.6); tail, 49-56 (average, 52.5); culmen from base, 12-15 (average, 13.6).

To make matters more interesting, there appears to be an altitudinal distinction in the ranges of the two groups, although otherwise both occupy some of the same general parts of Perú. I have both groups represented from the Río Inambari, southeastern Perú, and even collected on the same day with the same elevation recorded on the labels (2200 feet), but this elevation is given for all the specimens obtained by the Watkins brothers at that place (presumably in the neighborhood of Santo Domingo), some of which are certain to have been secured either above or below that base line on the mountainside. Consequently there is no assurance that the birds belonging to the two groups under discussion were actually taken together.

Elsewhere in southeastern Perú, there is no suggested conflict in localities. The larger *flavigularis* is represented by specimens secured from 1200 to 4000 feet; the smaller *parvirostris* from 4500 to 7000 feet, and one Bolivian example of *parvirostris* was found at 8000 feet. In central Perú, *flavigularis* was taken at 800 and 1300 meters (2624 and 4264 feet); *parvirostris*,

at 4800 and 6100 feet. In Colombia, where both groups also occur, members of the *flavicularis* group were taken from 1200 to 5000 feet; *parvirostris*, from somewhat above 4800 to 7000 feet. If these groups were altitudinal representatives of each other, one would expect the larger birds to occur at the higher elevations instead of the reverse.

Taczanowski and Berlepsch (1885, Proc. Zool. Soc. London, pp. 81-82) call attention to certain distinctions in size and color between birds from Machay (5000 feet) and Mapoto (7000 feet), eastern Ecuador, which coincide with what I have found in the Peruvian and Colombian series, even including the color of the iris.

With these facts in mind, I feel justified in resurrecting *parvirostris* as a species distinct from *flavicularis*. Unfortunately, it is impossible to allocate all previous records of "*flavicularis*" from different localities in Perú. Some of them presumably belong to *parvirostris* which I judge to be an inhabitant of the Subtropical Zone; *flavicularis* probably is restricted to the Upper Tropical Zone.

As will be explained under the following headings, *parvirostris* is divisible into three subspecies, and of these the nominate form seems to be restricted to the extreme southeastern part of Perú and western Bolivia.

Chlorospingus parvirostris huallagae Carriker

Chlorospingus flavicularis huallagae CARRIKER, 1933 (March 24), Proc. Acad. Nat. Sci. Philadelphia, vol. 85, p. 36—Uteubamba, Dept. Libertad, Perú; ♂; Acad. Nat. Sci. Philadelphia.

A female from Chaupe, northern Perú, exhibits the orange yellow throat which is the decisive character of *huallagae*, and is referable to this form in distinction from true *parvirostris* of southeastern Perú. The other characters mentioned in the original description are also present, but, while they serve to distinguish the *parvirostris* group from *flavicularis*, they are shared by *parvirostris parvirostris*. The depth of color on the throat, particularly on the sides, is the only character by which I can distinguish the north-Peruvian birds from the southeastern population. Twelve

specimens from southeastern Perú and one from Bolivia have the throat near Wax Yellow, while in the Chaupe bird it is Yellow Ocher × Cadmium Yellow.

Four birds from eastern Colombia are quite indistinguishable from the Chaupe bird and I believe must be referred to *huallagae*. Strangely, no specimen of this group is represented in our Ecuadorian series which includes 17 examples of *flavicularis flavicularis* and 21 of *f. marginatus*. From the discussion by Taczanowski and Berlepsch (*loc. cit.*), however, there is no doubt that *huallagae* occurs in eastern Ecuador and that the record of "*flavicularis*" from Machay pertains to this member of the *parvirostris* group.

Five birds from the Urubamba Valley and six from the Junín region of central Perú are somewhat equivocal since they are neither so pale throated as *parvirostris* nor so deep throated as *huallagae*. It is not easy to refer them to either of the other forms, although one example of *huallagae* shows the characters of the central-Peruvian birds, and one of the latter is as deeply colored as several specimens from the north though paler throated than most of them. I believe, consequently, that they are best provided with a distinct name, in spite of their intermediate nature. They may be known as follows.

Chlorospingus parvirostris medianus, new subspecies

TYPE: From Utcuyacu, Junín, Perú; altitude 4800 feet. No. 169537, American Museum of Natural History. Adult male (with enlarged testes) collected December 1, 1919, by Harry Watkins.

DIAGNOSIS: Intermediate between *C. p. parvirostris* of southeastern Perú and western Bolivia and *C. p. huallagae* of northern Perú and southeastern Colombia, having the throat deeper yellow than in *parvirostris* but lighter than in *huallagae*.

RANGE: Subtropical Zone of the Junín and Urubamba regions of central Perú.

DESCRIPTION OF TYPE: Upper parts Dark Citrine × Medal Bronze; lores with a slight buffy tinge; malar region and auriculars like the top of the head with pale shaft-streaks somewhat obvious on

the auriculars; chin narrowly dull Smoke Gray, extended posteriad through the middle of the throat but not quite reaching the gray chest; remainder of throat near Light Cadmium, strongest and clearest on the sides where the color is produced posteriad much farther than in the middle; breast dingy Smoke Gray, somewhat darker on the sides and flanks; belly soiled whitish; under tail-coverts with olive centers and yellower margins and tips—near Old Gold. Remiges dark brown with outer margins near the color of the back except towards the tips of most of the primaries and along the outer border of the outermost quill, which areas are grayish; exposed portions of upper wing-coverts also like the back; outer margins of alula feathers more grayish; inner margins of remiges indistinctly dull whitish; under wing-coverts and axillars soiled whitish with a slight greenish or yellowish tinge. Tail dark brown with median rectrices and outer margins of remainder like the back. Bill (in dried skin), blackish, with a pale area near the base of the gonys; feet dark brown. Wing, 76 mm.; tail, 59; exposed culmen, 11; culmen from base, 14.6; tarsus, 20.5.

REMARKS: Females like the males in coloration but slightly smaller; wing, 70–71.5; tail, 52–56; culmen from base, 12.2–14. Males: wing, 73.5–79; tail, 55–59; culmen from base, 13–14.6.

It is of interest to note that while *medianus* has a darker throat than *flavigularis* *flavigularis* of the same geographical (but not altitudinal) part of Perú, *parvirostris* has a paler throat than either.

***Chlorospingus flavigularis flavigularis* (Sclater)**

Pipilopsis flavigularis SCLATER, 1852, Rev. Mag. Zool., ser. 2, vol. 4, p. 8—Nouvelle Génade = Bogotá, Colombia; Paris Mus.

This eastern form of the species ranges from the Eastern Andes of Colombia southward along the Andes of eastern Ecuador and eastern Perú to the south-eastern part of Perú and possibly farther. I have not enough material from Colombia to be certain of some details of plumage in that region in comparison with a good

series from Ecuador and Perú, but there is no obvious distinction in the combined series. Three of four Colombian birds show rather more definition between the yellow throat and the olive auriculars than most of the rest of the series, but the fourth bird is not so well marked, and some of the Ecuadorian and Peruvian birds show the same demarcation; most of them show a rather gradual transition across the malar region. There is variation, also, in the depth of yellow on the throat, with both extremes occurring in all parts of the range. The gray lores and malar apex are consistently present, even in immature specimens.

Earlier Peruvian records are not certain although an Eneñas record belongs here and possibly an early record from Chayavitas, although Berlepsch (1912, Ber. 5 Internat.-Ornith. Kongr., Berlin, p. 1091) questioned the record without giving the grounds for his objection.

There is a slight possibility that the type of *flavigularis* is of the *parvirostris* complex in which case *huallagae* would become a synonym of *flavigularis*, while the east-Andean bird of Colombia to Perú would require a new name under the specific name *hypophaeus*, now the subspecific name of the Panamanian form. I feel sure, however, that if this assignment were correct, some one would have commented on distinctions between it and other Bogotá birds or east-Ecuadorian and Peruvian specimens. In any case, the only Bogotá skin at hand belongs to the group including *marginatus* and *hypophaeus*. The colored figure of the type published by Sclater (1852, in Jardine, Contributions to ornithology, pl. [98]) shows a bird with yellow (but not orange) throat and clear gray under parts, which agree with the characters of the form to which the name *flavigularis* is usually assigned. There is considerable contrast between the auriculars and the throat but, as noted above, this sometimes occurs in this form.

SPECIMENS EXAMINED

C. p. parvirostris.—

BOLIVIA:

Nequejahuira, 1 ♂.

PERÚ:

Inca Mine, 1 "♂" (type), 1 "♀";
 Río Inambari, 1 ♂, 1 ♀;
 Santo Domingo, 2 ♂, 4 ♀;
 Oconeque, 1 ♂, 1 ♀, 4 ♂¹, 2 ♀¹;
 La Oroya, 1 ♂¹.

C. p. medianus.—

PERÚ:

Idma, 1 ♂, 3 ?[♂], 1 ♀;
 Utcuyacu, 3 ♂ (including type), 3 ♀.

C. p. huallagae.—

PERÚ:

Chaupe, 1 ♀;
 Utubamba, 3 ♂¹ (including type), 1 ♀¹;
 Río Jelashte, 4 ♂¹, 1 ♀¹;
 Tabaconas, 1 ♂¹;
 Tamborapa, 1 ♂¹.

COLOMBIA:

La Palma, 1 ♂, 1 ♀;
 Andalucia, 1 ♂;
 Monte Redondo, 1 ♂.

C. f. flavigularis.—

PERÚ:

Río Inambari, 2 ♂, 1 ♀, 1 "♂" [? = ♀];
 La Pampa, 1 ♀;
 Chirimayo, 1 ♂;
 Caradoc, 2 ♂, 1 ♀;
 Pozuzo, 1 ♂, 1 ♀;
 Guadalupe, Río Tono, 1 ♂;
 Chanchamayo, 1 ♀;
 Eneñas, 2 ♂¹, 1 ♀¹;
 La Oroya, 1 ♀¹.

ECUADOR:

San José, 2 ♂, 3 ♀;
 Zamora, 1 ♂;
 Macas region, 3 (?);
 Colimba, 3 ♀;
 "Napo," 3 (?).

COLOMBIA:

Buena Vista, 1 ♂;
 La Frijolera, 2 ♂;
 "Bogotá," 1 (?).

C. f. marginatus.—

ECUADOR:

La Chonta, 4 ♂, 2 ♀;
 Naranjo, 2 (?);
 Chimbo, 2 ♂;
 Bucay, 1 ♀;
 Mindo, 2 ♂;
 Gualea, 1 ♂;
 Paramba, 4 ♂;
 Lita, 1 ♀;
 Milligalli, 1 ♂;
 Canzacota, 1 ♂.

COLOMBIA:

Buenavista, 2 ♂ (including type), 3 ♀;
 Cocal, 1 ♀.

C. f. hypophaeus.—

PANAMÁ:

Chitrá, 1 ♂;
 Santa Fé, Veraguas, 2 ♂;
 Río Calovevora, 2 ♂, 1 ♀;
 (no locality), 1 (?).

Chlorospingus canigularis signatus
Taczanowski and Berlepsch

Chlorospingus signatus TACZANOWSKI AND BERLEPSCH, 1885, Proc. Zool. Soc. London, p. 82—Machay, Ecuador; ♂; Warsaw Mus.

I am not sure that Peruvian birds should not be separated from the east-Ecuadorian population from which they show a certain distinction. The Peruvian specimens of both sexes have the white superciliary stripe broad and long, the auriculars deeply blackish, and the belly more broadly white than in most of the Ecuadorian series. There are, however, several Ecuadorian birds that show one or more of these features, while at the opposite extreme there are examples with very short or narrow superciliaries, dusky gray auriculars, and somewhat grayish lower under parts, at least laterally. The throat in the Peruvian birds also appears to be a little more heavily marked laterally, whereas it is lighter and more uniform in the Ecuadorian series. The features of the Ecuadorian birds most markedly differing from the Peruvian skins are rather definitely in the direction of the Colombian *C. canigularis* which has light auriculars, a light but dull cap, and no auricular stripe, and I believe it best to consider the Peruvian population as belonging to *signatus* and showing its diagnostic characters to best advantage.

All Peruvian specimens known are from Chaupe.

Chlorospingus canigularis conspicillatus
Todd

Chlorospingus canigularis conspicillatus TODD, 1922 (July 12), Proc. Biol. Soc. Washington, vol. 35, p. 93—Bitaco Valley, Colombia; ♂; Carnegie Mus.

I am unable to recognize *conspicillatus* on the characters originally given for it—a somewhat larger size than that of *c. canigularis* and a more deeply colored pectoral band about twice as wide as that of the nominate form. The material at hand from western Colombia shows about the same dimensions as eastern birds; although one western bird is the largest of the series,

¹ Specimens in Academy of Natural Sciences of Philadelphia.

the eastern population actually averages very slightly larger. The breast band is the same in both series, although certain examples in both have apparently wider bands due to having the skin stretched in preparation.

There is, however, a distinction in the average color of the back and a more constant one in the color of the head. The western birds have the back a little deeper olive, on average, while the cap is darker and clearer gray (without any tinge of Mouse Gray) and the auriculars are more sooty than those of eastern specimens. In these respects, examples from the Central Andes agree with the western specimens, leaving *c. canigularis* restricted to the Eastern Andes. Curiously, while a skin from La Candela is easily assignable to *conspicillatus*, one from San Agustín, a few miles to the eastward, agrees with *canigularis*.

Five birds from southwestern Ecuador present characters that make their assignment to either of the Colombian forms improbable. They may be known as follows.

Chlorospingus canigularis paulus, new subspecies

TYPE: From La Chonta, Province del Oro, Ecuador; altitude 2000 feet. No. 172830, American Museum of Natural History. Adult male collected July 22, 1921, by Geoffrey Gill; original no. 65.

DIAGNOSIS: Similar to *C. c. canigularis* of the Eastern Andes of Colombia, but dimensions smaller; head clearer gray and somewhat lighter; back lighter green. Differs from *conspicillatus* of central and western Colombia by smaller size, lighter (but equally clear gray) cap, lighter and less dusky auriculars, and lighter green back.

RANGE: Known only from southwestern Ecuador.

DESCRIPTION OF TYPE: Top and sides

of head Neutral Gray \times Deep Neutral Gray; rest of upper parts Warbler Green \times Pyrite Yellow. Malar region Pale Neutral Gray; throat white; breast crossed by a broad band of Strontian Yellow \times Lemon Yellow, becoming bright Yellowish Citrine on the sides and flanks; under tail-coverts Lemon Yellow \times Lemon Chrome; central abdomen white, lightly tinged with gray laterally. Remiges brown; outer margin of outermost primary narrowly grayish; margins of remaining primaries and secondaries and exposed portions of tertials like the back; inner margins of remiges narrowly dull whitish; under wing-coverts white, tinged with yellow, and with a dark area at base of primaries. Outer webs of rectrices much like the back; inner webs of median pair duller greenish and those of remainder grayish brown. Maxilla (in dried skin) blackish; mandible dusky brown; feet dark brown. Wing, 66 mm.; tail, 51; exposed culmen, 9; culmen from base, 13; tarsus, 19.

REMARKS: Female like the male in coloration but presumably still smaller.

The four males at hand have the wing, 66, 65, 66.5, and 64; tail, 51, 52.5, 52, and (?). The single female is molting, but the yet unmolted wing and tail feathers (among the longest of their respective members) show the wing 62 mm.; the tail, 49.

It might be suspected that the apparently small size of these birds was due to incorrect sexing, but it seems hardly likely that three different collectors, including the veteran George K. Cherrie and Harry Watkins, would have made this mistake in every supposed male in the series, although this is not impossible. Even if the four birds in question should be females and not males as indicated on the labels, the measurements of wing and tail are still less than those of most Colombian females as may be seen by the following figures:

		WING		TAIL		WING		TAIL
<i>canigularis</i>	4 ♂	75-76.5		59-61.5	5 ♀	66-72		52-60
<i>conspicillatus</i>	5 ♂	73.5-72.2		57-61	5 ♀	65.5-71		56-59
<i>paulus</i>	4 ♂	64-66.5		51-52.5	1 ♀	62		49

Without the difference in measurements the coloration of the Ecuadorian population is enough for recognizable distinction, especially from the west-Colombian *conspicillatus* which it most closely approaches geographically.

One of the Ecuadorian birds, a male from Pullango, has a well-developed postauricular white streak like that in *C. c. signatus*. Its light colors and lack of dusky auricular patch show no similar approach. Pullango is on the boundary line of Perú and Ecuador, and it is quite possible that this specimen may have come from the Peruvian side of the line as now constituted. At any rate, the occurrence of *paulus* in Perú is to be expected.

SPECIMENS EXAMINED

C. c. canigularis.—

COLOMBIA:

- Fusagasugá, 1 ♀, 1 (?) ;
- El Roble, 1 ♂ ;
- Subia, 1 ♂ ;
- Aguadita, 2 ♂, 4 ♀, 1 (?) ;
- "Bogotá," 5 (?)¹.

C. c. conspicillatus.—

COLOMBIA:

- La Candela, 1 ♂ ;
- Cerro Munchique, 3 ♂ ;
- San Antonio, 1 ♂, 1 [? ♀] ;
- San Agustín, 1 [? ♀] ;
- La Cumbre, 2 ♂¹ ;
- El Tambo, 1 ♂¹ ;
- La Selva, Caldas, 2 ♂¹, 1 ♀¹ ;
- Pueblo Rico, 1 ♂¹.

C. c. paulus.—

ECUADOR:

- La Chonta, 2 ♂ (including type) ;
- Las Piñas, 1 ♂ ;
- Pullango, 1 ♂ ;
- Coco, Río Chimbo, 1 ♀ .

C. c. signatus.—

ECUADOR:

- Río Oyacachi, below Chaco, 2 ♂, 5 ♀ ;
- lower Sumaco, 2 ♂ ;
- Cutucú, 1 "♂" [? = ♀] ;
- Colimba, 2 ♂ ;
- Guayabo, Río Zamora, 1 ♂, 1 ♀¹ ;
- "Napo," 2 (?) .

PERÚ:

- Chaupe, 2 ♂, 3 ♀, 1 ♂¹.

Cnemoscopus rubrirostris chrysogaster (Taczanowski)

Chlorospingus chrysogaster TACZANOWSKI,
1874, Proc. Zool. Soc. London, p. 517—"Tam-

¹ Specimens in Academy of Natural Sciences of Philadelphia.

bapota" [= Tambopata, Dept. Junín], Perú; ♀ ; type formerly in Warsaw Mus., now lost.

Culumachay, 1 ♀ ; Maraynioc, 2 ♀ ; Rumicruz, 1 ♂ ; La Lejia, 1 ♂, 1 ♀ .

There seems to be no significant difference between birds from the Junín region and those from northern Perú. Other records are from Tambo de Aza and Puyasayacu, and Mr. James Bond advises me there are specimens in the Academy of Natural Sciences of Philadelphia from Huacapistana and Leimebamba.

One of the females from Maraynioc is interesting by reason of having the lipochrome pigment diluted, leaving the belly quite pale yellow and the back grayish olive. The male from La Lejia is slightly more golden olive on the dorsum than any other example in the series, but the female is matched fairly closely by the yellower examples from central Perú.

Hellmayr (1936, Field Mus. Nat. Hist., zool. ser., vol. 13, p. 9, p. 418, footnote) notes *chrysogaster* as larger than *rubrirostris*, but, although none of the Peruvian males at hand is quite so large as the male whose measurements he quotes, some of the males of *rubrirostris* from Colombia and Ecuador are still larger and many of the females of *rubrirostris* are also larger than the Peruvian birds of the same sex. There is thus little difference in the dimensions of the two forms.

Hemispingus atro-pileus auricularis (Cabanis)

Chlorospingus (Hemispingus) auricularis CABANIS, 1873, Jour. f. Ornith., vol. 21, p. 318—Perú [= Maraynioc]; ♂ in Warsaw Mus. claimed as type by Taczanowski and by Sztolcman and Domaniewski, but a specimen in the Berlin Museum was marked as type by Cabanis (Stresemann, *in litt.*)

Hemispingus atropelius [sic] *intermedius* CARRIKER, 1934 (June 25), Proc. Acad. Nat. Sci. Philadelphia, vol. 86, p. 331—Lluy, Dept. Amazonas, Perú; ♂; Acad. Nat. Sci. Philadelphia.

Maraynioc, 2 ♂, 1 ♀ ; Rumieruz, 1 ♂, 2 (?) ; Tocopoqueu (Ococabamba Valley), 1 ♂ ; La Lejia, 1 ♂, 2 ♀ .

I can find no differences between birds from the type locality of *auricularis* and others from near the type locality of "*intermedius*." The latter supposed form was said to have the superciliary stripe buffy

instead of white, but the material at hand does not confirm this distinction. The character is variable, and one of the Maynayoc males has more pronounced buff in this area than any of the three skins from La Lejia.

Additional records are from Paltay-pampa, Sillapata, Llui, and Leimebamba.

Hemispingus superciliaris maculifrons,
new subspecies

TYPE: From El Tambo, Dept. Piura, Perú; altitude 9400 feet. No. 175796, American Museum of Natural History. Adult male collected December 1, 1922, by Harry Watkins; original no. 6716.

DIAGNOSIS: Similar to *H. s. superciliaris* of eastern Colombia but the gray of the forehead not produced so far posteriad, relatively more sharply defined from the crown, and with dusky (but not black) transverse markings at the tips of the feathers; postocular stripe somewhat better developed and darker (but not so pronounced nor so extensive as in *nigrifrons*).

RANGE: Southwestern Ecuador and northwestern Perú, west of the Marañón.

DESCRIPTION OF TYPE: Forehead broadly dark gray with sooty terminal bars or spots on the feathers; crown, back of head, and back Yellowish Oil Green \times Warbler Green, a little lighter and duller on the rump; a broad white superciliary stripe from the base of the bill to the posterior border of the auriculars, the individual feathers faintly tipped with gray; lores blackish; a short, sooty gray postocular stripe and a large white subocular patch; auriculars Olive Green with some yellowish shaft stripes, more pronounced anteriorly. Under parts mostly Lemon Yellow \times Lemon Chrome, with traces of olive tips on the sides of the throat, and with the sides of the breast merging into the olive of the back. Remiges dark brown; outer margins of primaries narrowly somewhat yellower than the back, becoming grayish towards the tips; outer margins of secondaries and tertials near the color of the back; primary-coverts blackish with obsolete pale edges; greater wing-coverts with outer margins

somewhat yellowish olive; median and lesser coverts with tips the color of the back; bend of wing deep yellow; under wing-coverts and inner margins of remiges dull whitish. Tail dark brown with olive outer margins. Bill (in dried skin) dusky slate with a pale area along the gonys; feet dull dark brownish. Wing, 73.5 mm.; tail, 64; exposed culmen, 11; culmen from base, 14; tarsus, 22.

REMARKS: Females similar to the males in coloration but smaller; wing, 63–71 (average, 66.6); tail, 55.5–59.5 (average, 58.9). Males: wing, 70–77.2 (average, 72.5); tail, 58.5–64 (average, 61.3).

In the specimens of *H. s. superciliaris* at hand there appears to be little approach towards the characters of this new form. One "Bogotá-skin" has considerable black on the forehead, but this takes the form of shaft-streaking rather than terminal barring and thus resembles the condition in *nigrifrons* rather than that in *maculifrons*. Two or three of the series of *maculifrons* have the dark frontal markings reduced, approaching the condition of *superciliaris*, but they are decided exceptions. Actually *maculifrons* is, in a sense, intermediate between *nigrifrons* and *superciliaris*, but its geographical position is not, being beyond one of the extremes. In any case, the distinction between *maculifrons* and its nearest geographical affine, *nigrifrons*, is more pronounced than that marking its separation from the more distant *superciliaris*. Only one specimen, a female from Taraguacocha, Ecuador, has the frontal markings heavy enough to suggest *nigrifrons* at all pronouncedly.

There is some approach towards both adjacent forms in the series of *nigrifrons*, but the heavy black frontal markings, sometimes the uniform black forehead, and the strong black area on the sides of the head, sometimes virtually obliterating the white subocular patch, are excellent characters. One female from Valle de las Pappas, southern Colombia, has the posterior part of the superciliary stripe decidedly yellow, a character that is shown also by a specimen of *maculifrons* of uncertain sex from Chugur, Perú. Both birds in question are not fully adult, from

which I judge the character to be one of immaturity.

A record from Paucal undoubtedly should be assigned to *maculifrons*. Other records from Tambillo and Cutervo probably belong here also. I have seen no material from the eastern side of the Western Andes. A quite different form occurs east of the Marañón in the Central Andes, as will be discussed below, with which the Tambillo and Cutervo birds are not at all likely to have been confused.

It may be added here that the type specimen of *nigrifrons* is not in the American Museum of Natural History as stated by Hellmayr (1936, Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 9, p. 422). Lawrence did not state the repository of this type, but most of the other species described in the same article (1875, *Ibis*, ser. 3, vol. 5, pp. 383-387) were said to be in the United States National Museum, where the type of *nigrifrons* probably also is preserved.

Three specimens from the Urubamba region of southern Perú are strikingly similar to *nigrifrons* to which, indeed, they were referred by Chapman (1921, Bull. U. S. Natl. Mus., no. 117, p. 122), but the interposition of *maculifrons*, as well as Central-Andean representatives discussed below, points to the desirability of separating an extreme southeastern form, as is discussed a little later. Before reaching that outpost of the species, however, the occupants of the Central Andes of Perú should be examined.

Hemispingus superciliaris leucogaster (Taczanowski)

Dacnidea leucogastra TACZANOWSKI, 1874,
Proc. Zool. Soc. London, p. 131, pl. 19, fig. 2—
Maraynioc, Perú; ♂; Warsaw Mus.

Taczanowski called attention to the great similarity of the present form to *superciliaris* (cf. 1882, Proc. Zool. Soc. London, p. 15; 1884, Ornithologie du Pérou, vol. 2, pp. 518-519), noting that it replaced *superciliaris* in the Central and Eastern Andes of Perú and that Stolzmann had found the two "species" to be identical in behavior and voice. A careful comparison of the gray and the yellow birds shows

nothing except the absence of the heavy lipochrome in *leucogaster* to distinguish it from members of the *superciliaris* group, and there are some indications of the yellow pigmentation in the olive that is often quite obvious on the edges of the wings and tail to show that it has not been entirely lost. Furthermore, as is discussed a little later, the yellow and green style of coloration reappears in southeastern Perú and Bolivia, leaving the gray and white birds in possession of an intermediate area, somewhat in the manner pointed out (p. 2) for *Chlorospingus ophthalmicus cinereocephalus*.

This sort of pigmental deficiency is common enough as an individual variation in one species or another in the bird world. In the present case it affects an entire population but does not thereby acquire overwhelming importance as a specific character. The pattern has not altered in any way, and pattern often is more important taxonomically than intensity of coloration.

The opposite extreme is found in *chrysophrays* of the Mérida region of Venezuela which I believe (not *H. reyi* as suggested by Hellmayr, 1936, Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 9, p. 422, footnote) is the geographical representative of the *superciliaris* group. In *chrysophrays* the gray has been suppressed and the bird is almost entirely olive and yellow, although some examples show the dusky tips on the forehead that are so prominent a feature of most of the forms of this group. The sides of the throat in most specimens of *chrysophrays* examined show the characteristic dark tips on the sides of the throat, all have the dusky stripe through the orbit and the pale subocular lunule, although the latter, like the superciliary stripe, is yellow instead of white. I favor the reduction of *chrysophrays* to subspecific rank in the *superciliaris* group.

For these reasons, I believe we should consider *leucogaster* to be a true member of the *superciliaris* group in which it is to be accorded subspecific rank. It is unfortunate that Hellmayr (1936, Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 9, p. 426) obscured the situation by interposing

H. frontalis, *H. chrysophrays*, and *H. reyi* between *superciliaris* and *leucogaster*.

In an earlier paper (1930, Field Mus. Nat. Hist., zool. ser., vol. 17, p. 455), I noted certain differences between birds from central Perú and others from the northern part of the country, but in the absence of an adequate series I was unable to appreciate the full significance of the distinctions. With much more material now at hand, I find the northern birds sufficiently recognizable to warrant their separation as a new subspecies to be known as follows.

Records assignable to *leucogaster* include those from Maraynioc and Pariayacu, and specimens in the Academy of Natural Sciences of Philadelphia from Huacapistana and Auquimarca undoubtedly belong to the same form.

***Hemispingus superciliaris insignis*,
new subspecies**

TYPE: From La Lejia, north of Chachapoyas, Perú; altitude about 9000 feet. No. 235347, American Museum of Natural History. Adult male collected March 10, 1925, by Harry Watkins; original no. 8979.

DIAGNOSIS: Nearest to *H. s. leucogaster* of the Junín region of central Perú, but breast weakly or not at all grayish; upper parts averaging lighter gray; buffy tinge of the lower flanks and under tail-coverts with a slightly more yellowish tone. Differs from the other recognized forms of the species by being gray and white instead of olive and yellow.

RANGE: Known only from the highlands above the Utcubamba Valley, east of the Marañón, in northern Perú.

DESCRIPTION OF TYPE: Top of head dark Neutral Gray with some blackish tips on the feathers of the forehead; back somewhat duller, passing into Deep Grayish Olive on the uropygium; a white superciliary stripe from the base of the bill over the eye and the auriculars; lores and postocular space sooty; a whitish subocular lunule; auriculars gray with whitish shaft-streaks. Chin and throat white with slight dusky tips on the feathers of the sides

of the throat; breast slightly soiled whitish, becoming more grayish on the sides; belly white with a tinge of Marguerite Yellow \times Ivory Yellow on the lowermost portion; under tail-coverts Cartridge Buff; lower flanks slightly browner than Deep Olive-Buff. Wings dark brown with outer margins of secondaries and tertials near the color of the rump; margins of primaries lighter; primary-coverts blackish with obsolete paler margins; rest of upper wing-coverts with exposed margins near the color of the back; bend of wing, under wing-coverts, and inner margins of remiges white or whitish. Tail dark brown with dull olive margins. Bill (in dried skin) slaty with a paler area along gony; feet dark brown. Wing, 72 mm.; tail, 61.5; exposed culmen, 11; culmen from base, 14; tarsus, 20.5.

REMARKS: Female similar to the male but somewhat smaller.

Two males have the dark tips on the forehead quite pronounced and blackish. The rest of the series have only a little more or less than the type, approximating the condition in the yellow-hued *maculifrons*. The markings on the throat also are variable. One male from La Lejia and one from San Pedro have prominent dusky tips in this region and one other from San Pedro has them less obvious, about as in average *leucogaster*. The rest of the series have only a trace of such tips or none.

The suggestion of a yellower tone on the lower under parts is shown by most of the series but not by all, but it does not appear in any of the central Peruvian *leucogaster* at hand. It is, perhaps, an indication of a trend towards the yellower forms of the species.

Records from Tamiapampa, Leimebamba, and Chachapoyas undoubtedly belong to *insignis*, as should specimens from Llui said to be in the Academy of Natural Sciences of Philadelphia.

***Hemispingus superciliaris urubambae*,
new subspecies**

TYPE: From Tocopoqueu, Occobamba Valley, Perú; altitude 9100 feet. No. 166621, American Museum of Natural

History. Male (not fully adult) collected July 29, 1915, by Edmund Heller; original no. 397.

DIAGNOSIS: Similar to *H. s. nigrifrons* of northern Ecuador, but somewhat lighter yellow below; forehead strongly marked with black terminal spots (in adult) or with only a suggestion of blackish tips (younger birds) but on an olive instead of gray background; superciliary stripe with at least a trace of yellow at posterior end; wing, tail, and bill smaller than in most *nigrifrons*.

RANGE: Urubamba region of southern Perú and probably the Marcapata district, Perú, and western Bolivia.

DESCRIPTION OF TYPE: Top of head and back Warbler Green \times Olive-Green; apex of forehead blackish and with very slight dusky tips on adjacent feathers; a broad white superciliary stripe becoming distinctly yellow over the middle of the auriculars; lores and postocular stripe dusky gray; a prominent subocular spot of white; auriculars olive like the cap, with yellower shaft-streaks. Under parts very slightly deeper than Lemon Yellow; sides and flanks olivaceous. Wings and tail as described for *H. s. maculifrons*. Bill (in dried skin) dull blackish with a whitish area along the gony; feet dark brown. Wing, 63 mm.; tail, 55; exposed culmen, 11; culmen from base, 12.2; tarsus, 20.

REMARKS: Adults differ from this younger bird by having the forehead black and most of the crown with blackish tips and with little or no trace of gray on the margins of the feathers. Sides of face also blackish rather than grayish. The posterior tips of the superciliaries are less pronouncedly, but still perceptibly, yellowish.

The characters of this form are slight, but I think subspecific separation is justified in view of the wide separation of ranges between southern Perú and northern Ecuador in which three additional forms (one olive and yellow and two gray and white) occupy the suitable terrain.

Berlepsch (1912, Verhandl. 5 Internat. Ornith. Kongr., Berlin, p. 1143) and Hellmayr (1936, Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 9, p. 421, footnote)

both noted the yellow tips of the superciliaries in specimens from western Bolivia, and while this feature sometimes occurs in some of the other forms, particularly in young examples, it appears to be constant in this southeastern population. I have no measurements for Bolivian examples, but the three Peruvian specimens measure as follows: male, wing, 69; tail, 56; culmen from base, 12.4; female, wing, 66; tail, 57.5; culmen from base, 12.2; subadult male (type), as above.

Fifteen males of *nigrifrons* show the following: wing, 70–75.2 (average, 72.7); tail 58–64 (average, 60.2); culmen from base, 12.7–15 (average, 13.3); six females, wing, 65–69 (average, 67.4); tail, 55.5–59.2 (average, 56.8); culmen from base, 12.6–13.8 (average, 13.2).

The wing and tail of the Peruvian adults, therefore, show little difference from the minimum dimensions of *nigrifrons*, but the bill appears to be definitely, though perceptibly, smaller, a difference that is more striking on actual comparison than the figures might indicate.

Berlepsch (*op. cit.*, p. 1093) includes "S. O. Peru (Marcapata)" in the range of "*superciliaris*" which must pertain to *urubambae*. I can find no other reference to this locality in accounts of the species.

In some respects the subadult bird chosen as type exhibits the characters of the new form to better advantage than do the adults, for in the latter the extensive black of the forehead has made the comparative absence of gray but poorly apparent, while the generally olive tone of the frontal region of the younger bird is in good contrast to the obviously gray forehead of *superciliaris*, *nigrifrons*, and *maculifrons*.

The yellow tips of the superciliaries are in a portion of the stripe above the auriculars. Where yellow appears in the stripes of certain adults of the other forms, it is likely to be in an extension of these stripes beyond the usual limits, sometimes on scattered feathers not clearly continuous with the superciliary itself. Similar indications of additional yellow markings are present in all three specimens of *urubambae*.

SPECIMENS EXAMINED

H. s. chrysophrys.—

VENEZUELA:

Escoial, 3 ♂, 1 ♀;
Culata, 1 (?);
Nevados, 1 (?);
Pinos, 1 ♂.

H. s. superciliaris.—

COLOMBIA:

Palo Hueco, near Pacho, 1 ♀;
Cundinamarca, 1 ♀;
"Bogotá," 8 (?)

H. s. nigrifrons.—

COLOMBIA:

Valle de las Pappas, 1 ♂, 2 ♀;
Santa Isabel, 1 ♂;
Laguneta, 2 ♂, 1 ♀.

ECUADOR:

(Mojanda Mts., road to Intac, Verdecocha,
Yanacocha, Pichinchia, Chivinda, Mindo,
Quito, Gualea, upper Sumaco, Zufac,
"Ecuador," and "W. Ecuador"), 11 ♂,
6 ♀, 6 (?)

H. s. maculifrons.—

ECUADOR:

Taraguacocha, 3 ♂, 3 ♀;
Salvias, 1 ♀.

PERÚ:

El Tambo, 2 ♂ (including type), 1 "♂"
[? = ♀], 3 ♀, 1 (?);
Chugur, 2 ♂, 1 ♀, 1 (?);
Taulis, 3 ♂, 3 ♀.

H. s. insignis.—

PERÚ:

La Lejia, 4 ♂ (including type), 1 ♀;
San Pedro, 3 ♂, 1 "♂" [? = ♀], 1 ♀;
Molinopampa, 2 ♀.

H. s. leucogaster.—

PERÚ:

Rumieruz, 4 ♂, 2 ♀;
Culumachay, 1 ♀;
Tambo de Aza, Maraynioc, 1 ♂;
Panao, 2 ♂¹.

H. s. urubambae.—

PERÚ:

Tocopoqueu, Occobamba Valley, 1 ♂
(type), 1 ♂².
Torontoy, 1 ♀².

Hemispingus frontalis frontalis
(Tschudi)

H. [ylophilus] frontalis TSCHUDI, 1844 (May),
Arch. Naturgesch., vol. 10, pt. 1, p. 284—Perú
[= Junín region]; Mus. Neuchâtel.

Chlorospingus oleagineus SCLATER, 1862, Proc.
Zool. Soc. London, p. 110—Bogotá, Colombia;
British Mus.

San Miguel (Urubamba Valley), 3 ♂;
Chelipes, 2 ♂, 1 ♀; Chaupe 4 ♂, 2 (?).

Four Ecuadorian and 14 Colombian
birds substantiate Chapman's and Hell-

mayr's conclusions that *oleagineus* is not separable from *frontalis*. Other Peruvian records are from Santa Ana, Pumamarca, and Tambillo. I am informed, also, that the Academy of Natural Sciences of Philadelphia has a specimen from the Pichis Trail.

***Hemispingus melanotis piurae* Chapman**

Hemispingus piurae CHAPMAN, 1923 (Apr. 11), Amer. Mus. Novitates, no. 67, p. 11—Palambra, Perú; ♂; Amer. Mus. Nat. Hist.

Hemispingus castaneicollis chapmani SZTOLCMAN AND DOMAŃIEWSKI, 1927 (June 1), Ann. Zool. Mus. Pol. Hist. Nat., vol. 6, pp. 2, p. 188—Tambillo, Perú; ? ♀; Warsaw Mus.

This form occupies the Western Andes (both sides) of northern Perú, where the pass across the divide is well within the elevations frequented by this species. This is not true in northern Ecuador, where *melanotis* occupies the eastern side of the Andes and *ochraceus* the western side.

A specimen of *piurae* from Chira, Perú, on the eastern side of the Western Andes, kindly lent by Mr. de Schauensee of the Academy of Natural Sciences of Philadelphia, agrees with the birds from the Pacific slope except that it has the margins of wings and tail more brownish than in any of the western birds at hand. The character is variable in other forms of the species and presumably is likewise in *piurae*.

The various forms of *melanotis* are well defined, although they all agree in a certain pattern as well as in details of proportional measurement. As known at present, there is a wide hiatus between the different subspecies. No examples are known from either side of the Andes in southern Ecuador; none from the Central Andes of northern Perú; none from the Urubamba Valley in southern Perú. Curiously, certain details of pattern are alternative. *H. melanotis melanotis* and *m. berlepschi* agree in the absence of the black throat patch; *m. piurae* and *m. castaneicollis* agree in the presence of this patch as well as in a stronger development of the white superciliary stripe.

Young birds differ from the adults by having lighter, buffier back; duller sooty

¹ Specimens in Chicago Natural History Museum.

² Specimens in United States National Museum.

cap and sides of the head; even broader but faintly yellowish superciliary stripes; no black throat but a broad grayish malar area spreading across the upper throat where it is tinged with ochraceous; and lighter and more ochraceous under parts.

There is some similarity between *H. m. piurae* and *H. goeringi* of the Mérida region of Venezuela, but I do not believe that the two are conspecific. Both have very broad white superciliary stripes, but while that of *piurae* reaches the base of the bill, that of *goeringi* stops abruptly over the middle of the lores, leaving a broad black interval. Furthermore, *goeringi* has longer tarsi and shorter bill of slightly different shape. I agree with those who believe that it belongs in the genus *Hemispingus* and not in a monotypic "*Orospinus*" but can find no closer relationship to other members of the genus.

Other records assignable to *piurae* are from Nancho and Tambillo.

Hemispingus melanotis berlepschi (Taczanowski)

Chlorospingus berlepschi TACZANOWSKI, 1880,
Proc. Zool. Soc. London, p. 195—Ropaybamba,
Perú; ♀; Warsaw Mus.

Apparently restricted to the Junín region of central Perú, although as stated in the discussion of *piurae* there is territory to the north and south where no member of the species has been found, in part of which *berlepschi* may occur.

The young bird of this form differs from the adult by having the top of the head distinctly greenish; the back olive brown; the breast and throat deep ochraceous instead of rufous; the belly pale buff; the under tail-coverts bright cinnamon; and the margins of the inner remiges and upper wing-coverts also cinnamomeous. As does the adult, it bears a closer resemblance to *melanotis* of its same age than to *piurae* in corresponding plumage.

Berlepschi is known only from the type locality and Chilpes, in which latter place the limited material at hand was obtained.

Hemispingus melanotis castaneicollis (Slater)

Chlorospingus castaneicollis SCLATER, 1858
(Nov.), Proc. Zool. Soc. London, vol. 26, p. 293—

interior of Perú, probably bordering Bolivia, if not from Bolivia; British Mus.

I can find no distinctions between birds from southeastern Perú and those from western Bolivia.

A young male of this form has, as does that of *piurae*, the superciliary stripes more pronounced than in the adult and slightly yellowish. The back is olive brown (as in the young of the other forms); the top of the head also olivaceous but distinctly darker than the back, and the sides of the head similar; malar region grayer; chin dull whitish; throat and breast much paler than in the adult and only slightly lighter than the same parts in *berlepschi* which young *castaneicollis* resembles in ventral aspect. The pattern of the head strongly suggests *Hemispingus trifasciatus*, although there is no trace of the lateral blackish stripes on the crown, and the superciliaries are less yellowish. Other characters are not so suggestive, although there is a general resemblance in various particulars, not enough to indicate specific relationship.

Castaneicollis has been recorded also from "Chuhuasi" [=Uruhuasi], and the Academy of Natural Sciences of Philadelphia adds Oconeque from their collections.

SPECIMENS EXAMINED

H. m. melanotis.—

COLOMBIA:

Santa Elena, 1 ♂, 1 ♀;
above Salento, 1 ♂;
Fusagasugá, 1 ♀;
El Roble, 1 ♀;
Aguadita, 1 ♂;
Beltrán, 1 (?);
Páramo de Choachi, 1 (?).

ECUADOR:

Ambato, 1 ♀;
above Baeza, 2 ♂.

H. m. ochraceus.—

COLOMBIA:

Mayasquer, Nariño, 1 ♂¹.

H. m. piurae.—

PERÚ:

Palambra, 1 ♂ (type), 1 ♀;
Chugur, 3 ♂, 4 ♀, 1 (?);
Taulis, 2 ♂, 1 ♀;
Chira, 1 ♀¹.

H. m. berlepschi.—

PERÚ:

Chilpes, 1 ♂, 1 ♀.

¹ Specimens in Academy of Natural Sciences of Philadelphia.

H. m. castaneicollis.—

PERÚ:

Inca Mine, 2 ♂;
Santo Domingo, 3 ♂, 3 ♀.

BOLIVIA:

Roquefalsa, 1 ♂;
Yungas, Cochabamba, 1 ♂;
Nequejahuira, 1 ♂.

Hemispingus xanthophthalmus
(*Taczanowski*)

Dacnis xanthopthalma TACZANOWSKI, 1874,
Proc. Zool. Soc. London, p. 131—Maraynioc,
Perú; ♀; Warsaw Mus.

Pariayacu, Maraynioc, 1 ♀; San Pedro,
1 ♂, 1 ♀; La Lejia, 5 ♂, 1 ♀.

Berlepsch and Stolzmann (1896, Proc. Zool. Soc. London, p. 346) noted that birds from central Perú had the culmen a little straighter than did one specimen from the northern part of the country. This distinction is apparent in the series at hand from the north in comparison with a single central-Peruvian bird, but it is not very striking and doubtfully important enough to warrant the recognition of two subspecies. I can find no other differences.

The median portion of the pileum, from the base of the bill to the nape, is very slightly lighter in color than the sides of the head with the separation sharp though meager. The pattern thus suggests that of the allied *H. verticalis*, the young of which lack the black throat of the adults of that form.

I can see no necessity to maintain *Pseudospingus* as a genus separate from *Hemispingus*. The bill is not more slender than in some members of the genus *Hemispingus*, although more slender than in most of them, and the only character of any validity appears to be the proportionately longer tail, nearly as long as the wing and sometimes exceeding it. I do not believe this character to be of generic importance.

Other records of *xanthophthalmus* are from Occobamba Valley, Maraynioc, and Tamiapampa, and the Academy of Natural Sciences of Philadelphia, I am informed, has specimens from Huacapista, Auquimarpa, Leimebamba, and Llui.

Hemispingus trifasciatus
(*Taczanowski*)

Microspingus trifasciatus TACZANOWSKI, 1874,
Proc. Zool. Soc. London, p. 132, pl. 19, fig. 1—

Maraynioc, Perú; ♂; formerly Warsaw Mus., now lost.

Torontoy, 1 ♂; Cedrobamba, 1 ♀.

I have seen no material from the Maraynioc region and cannot be sure that the Urubamba birds are identical. The male from Torontoy has the blackish lateral stripes on the crown much less broad than those as shown in the original plate. The female from Cedrobamba appears to be not fully adult and has the ventral coloration a little paler than that of the male. It also lacks the wing-bars of the adult, although a new feather in the series of median coverts on the right wing has the adult pattern, somewhat lighter in coloration than the corresponding feather of the adult male.

Hellmayr (1936, Field Mus. Nat. Hist., zool. ser., vol. 13, pt. 9, p. 431) has queried Berlepsch's citation (1912, Ber. 5 Internat.-Ornith. Kongr., Berlin, 1910, p. 1096) of various localities in northern Perú in the range of this species. I would amplify Hellmayr's statement by suggesting that Berlepsch added these northern localities by inadvertently taking them from Taczanowski's discussion (1884, Ornithologie du Pérou, vol. 2, p. 524) of "*Carenochrous latinuchus*" which immediately follows his treatment of "*Microspingus trifasciatus*."

Jelski, cited by Taczanowski (*op. cit.*, p. 523), observed the species between Pariayacu and Chilpes and at Pumamarca. He collected the type at Maraynioc. There are no other localities known, although the occurrence of the species in southeastern Perú is to be expected since it is reported from Bolivia.

I can see no generic characters in this species which warrant the continued recognition of "*Microspingus*." The bill is shorter than in the other species of *Hemispingus*, and the adults possess prominent wing-bars, but other features are shared by members of the larger group. I have already called attention to the noticeable similarity of certain young individuals of the *Hemispingus melanotis* group to *trifasciatus*.

Conothraupis speculigera speculigera
(Gould)

Schistochlamys speculigera GOULD, 1855 (May 16), Proc. Zool. Soc. London, vol. 23, p. 69—"River Ucayali" in Perú [Samne, Dept. Libertad, suggested by Carriker, 1934]; ♂; Brit. Mus.

"Ucayali," 1 ♂ (paratype); Pomará, 1 ♀; Milagros, 1 ♀.

The two females at hand add two more localities to the known range of this interesting bird. Other records are from Callacate, Huambo, and Rioja. The locality "River Ucayali" is doubtful, although the other birds described from similarly accredited specimens collected by Hauxwell appear plausibly to have come from that river, but Samne, suggested by Carriker, also appears unlikely since there is no assurance that Hauxwell ever visited the Pacific slopes of the Andes. The fixation of type locality is best left until the full range of the species is better known. From present records, it is very curious.

I adopt a trinomial designation on the basis of the colored figure of "*Rhynchothraupis mesoleuca*" of Matto Grosso, Brazil, recently published by Berliox (1946, L'Oiseau et Rev. Française d'Ornith., new ser., vol. 16, opp. p. 1). This figure and the accompanying text show the Brazilian bird to be extremely like *speculigera*, from which it appears to differ only by having the flanks and uropygium black instead of gray, the pectoral area a little more broadly black, and the dimensions a little smaller. These differences can be no more than subspecific.

I am not sure that this bird is not a finch instead of a tanager. The commissure is quite noticeably bent downward basally, giving the bill a finch-like appearance. More information on anatomical details is highly desirable.

***Chlorornis riefferii elegans* (Tschudi)**

S[altator] elegans TSCHUDI, 1844 (May), Arch. Naturgesch., vol. 10, pt. 1, p. 288—Perú = forests east of the cordillera in central Perú; Mus. Neuchâtel.

Specimens from the Junín region represent this form which is so clearly marked by the blue frontal patch and broad rufous throat, in distinction from typical *riefferii*.

A series from the northern part of Perú shares these characters but differs from the central-Peruvian birds by consistently paler brown head and lower abdomen. Since no name is available for the northern population, it is described below.

Records assignable to *elegans* are from Pumamarca, Sillapata, and Gloriapata, and I am advised that the Academy of Natural Sciences of Philadelphia has specimens from Auquimarca and Hauacapistana.

***Chlorornis riefferii diluta*, new subspecies**

TYPE: From San Pedro, south of Chachapoyas, northern Perú; altitude 8600 to 9400 feet. No. 235729, American Museum of Natural History. Adult male collected January 26, 1926, by Harry Watkins; original no. 10055.

DIAGNOSIS: Similar to *C. r. elegans* of central-eastern Perú and with a similar blue frontal patch, but brown color of face, lower abdomen, and under tail-coverts lighter in tone.

RANGE: Subtropical and Humid Temperate Zones of the Central Andes of northern Perú.

DESCRIPTION OF TYPE: General color rich green, darker when held towards the light, yellower away from the light; lesser wing-coverts more brilliant, forming a prominent shoulder patch. Anterior forehead, sides of head, chin and throat Chestnut × Burnt Sienna (Bay × Claret Brown in *elegans*); lower belly and under tail-coverts similar or slightly lighter. Behind the rufous anterior border to the forehead is a triangular patch of bright Columbia Blue; the feathers so colored are of a different texture owing to the absence of barbules and the flattening of the barbs. Tips of outer four primaries golden olive on outer margins; under side of remiges and rectrices with a yellowish tinge. Bill and feet (in dried skin) yellow (probably coral red to orange rufous in life). Wing, 118 mm.; tail, 86.5; exposed culmen, 15; culmen from base, 21; tarsus, 30.

REMARKS: Females similar in color but slightly smaller.

Of two examples without given sex

from Cumpang, one is easily referable to *diluta* while the other shows some approach towards *elegans*. Without more material from this area, it is impossible to say what preponderance of characters may be present in final analysis, but with the evidence at hand and in view of the relatively northern position of the locality, I refer these two birds tentatively to *diluta*.

Berlepsch and Stolzmann (1896, Proc. Zool. Soc. London, p. 348) noted the paler facial and abdominal coloration in a single male from Tamiapampa. They reported a larger size for this northern example, in comparison with the central-Peruvian form, but this character is not substantiated by the series now before me. There is no definite distinction in the measurements of the two subspecies and, as a matter of fact, my largest example is from Maraynioc.

Records are from Leimebamba, Chachapoyas, Molinopampa, Ray-Urmana, and Tamiapampa.

***Chlorornis riefferii boliviana* (Berlepsch)**

Psittospiza riefferi boliviana BERLEPSCH, 1912 (Febr.), Verhandl. 5 Internat.-Ornith. Kongr., Berlin, pp. 1110, 1145—Cillutincara, western Bolivia; ♂; Frankfort Mus.

This form was described as completely lacking the blue frontal patch of *elegans* and being somewhat darker green. Two females at hand from Bolivia present these characters to advantage and substantiate the distinction of *boliviana*.

Bond and de Schauensee (1941, Proc. Acad. Nat. Sci. Philadelphia, vol. 94, p. 378) report five specimens from Oconeque, southeastern Perú, as agreeing with six Bolivian birds. I have six specimens from southeastern Perú, however, that show some distinction from the two Bolivian skins at hand, and Mr. Bond, on reexamination of the Philadelphia material, has found the same distinction in that series, in spite of the generally close resemblance to *boliviana*. Since the difference appears to be constant, the recognition of a southeast-Peruvian subspecies becomes justifiable. It may be known as follows:

***Chlorornis riefferii celata*, new subspecies**

TYPE: From "Camp 1," below Limbani, southeastern Perú. No. 147838, American Museum of Natural History. Adult male collected March 10, 1907, by Harry Watkins; original no. 728.

DIAGNOSIS: Similar to *C. r. boliviana* of northwestern Bolivia in general darkness of coloration, but with a narrow transverse bar behind the rufous area of the forehead, narrower than the blue patch of *elegans* and not clear blue (in adults) but dull—near Deep Glaucous Gray or Medici Blue, somewhat as in typical *riefferii*.

RANGE: Extreme southeastern Perú.

DESCRIPTION OF TYPE: General coloration as described for *C. r. diluta* (but green colors darker); anterior forehead, sides of head, chin, and throat near Bay; rufous area of forehead bordered posteriorly by a narrow bar of Medici Blue, not distinguishable in certain lights. Wing, 104.5 mm.; tail, 80; exposed culmen, 15; culmen from base, 20.7; tarsus, 29.

REMARKS: Sexes alike in coloration.

Two birds that are not fully adult, judging by the soft tips of the remiges and the rather acute and narrowed rectrices, as well as by less firm texture of other parts of the plumage, have the body coloration as dark as in adults but the rufous areas of head and belly somewhat lighter, suggesting *diluta*. In addition, the post-frontal band is bright blue, brighter and more greenish blue than in the adults of *elegans* and *diluta* and approaching Motmot Blue. The feathers thus colored are not flattened and devoid of barbs as are the blue post-frontal feathers of *elegans* and *diluta* or the duller feathers in the corresponding patch of adult *celata*. A similar development of blue is noted in some of the young of *r. riefferii*, the adults of which have no clear blue in the area in question.

Mr. Bond, who kindly examined the material in the Academy of Natural Sciences of Philadelphia for me, advises that the five Peruvian birds in that collection all show the post-frontal line in distinction from the six Bolivian specimens with which he compared them.

SPECIMENS EXAMINED

C. r. riefferii.—

COLOMBIA:

(Cocal, Andes west of Popayan, Cerro Munchique, Almaguer, Anolaima, Laguneta, above Salento, Paramillo, Santa Elena, El Roble, Medellin, "Bogotá," and "Colombia"), 9 ♂, 14 ♀, 8 (?).

ECUADOR:

(Baeza, above Baeza, Macas region, Quito, Gualea, Papallacta, upper Sumaco, Canzarcota, and Milligalli), 15 ♂, 11 ♀, 3 (?).

C. r. diluta.—

PERÚ:

San Pedro, 5 ♂ (including type), 1 ♀; La Lejia, 3 ♂, 1 ♀; Levanto, 1 ♂, 1 ♀; Cumpang, 2 (?).

C. r. elegans.—

PERÚ:

Maraynioc, 2 ♂, 1 ♀; Pariayacu, 1 ♂, 1 ♀; Rumieruz, 3 ♂, 1 ♀.

C. r. celata.—

PERÚ:

Santo Domingo, 1 ♀; Oconeque, 1 ♂; "Camp 1," below Limbani, 4 ♂ (including type).

C. r. boliviiana.—

BOLIVIA:

Sandillani, 1 ♀; Cocopunco, 1 ♀.

Lamprospiza melanoleuca (Vieillot)

Saltator melanoleucus VIEILLOT, 1817, Nouveau dictionnaire d'histoire naturelle, nouv. éd., vol. 14, p. 105—"l'Amérique méridionale" [= Cayenne]; Paris Mus.

Psaris habia LESSON, (about) 1831, Centurie zoologique, p. 186—Cayenne; type presumably lost.

Lamprospiza] charmisi PENARD AND PENARD, 1910, De Vogels van Guyana, vol. 2, p. 463—Pararakweg, Surinam; cotypes in Amer. Mus. Nat. Hist.

Astillero, 1 ♀.

This appears to be the second specimen to be found in Perú and from the same part of the country as a male recorded from Yahuarmayo.

I can see no distinctions in a series of 33 skins from the various parts of the range, from Surinam, Rio Jamundá, Pará district, Rio Tocantins, Rio Tapajoz (both banks), Rio Roosevelt, and southeastern Perú. Hellmayr indicated the possibility that the Peruvian population might be larger than the birds from other parts of the range, but, although the Astillero female is near the maximum size

of the series at hand, it is matched or excelled by several others from distant localities. "*L. charmisi*" was predicated on supposedly larger size of Surinam birds, but the three cotypes from the Penard collection, like the Peruvian specimen, are equaled or exceeded in measurement by others in the series.

It would be interesting to learn the reason for the apparently "spotty" distribution of this bird of the tropical forests. It is known from relatively few but widely scattered localities.

Cissopis leveriana leveriana (Gmelin)

L [anius] leverianus GMELIN, 1788, Systema naturae, vol. 1, pt. 1, p. 302—based on the "Magpie-Shrike" of Latham; no locality (Cayenne suggested by Berlepsch and Hartert, 1902); Leverian Mus. (? type now lost).

L [anius] picatus LATHAM, 1790, Index ornithologicus, vol. 1, p. 73—same basis as *Lanius leverianus*.

Corvus collurio DAUDIN, 1800, Traité . . d'ornithologie, vol. 2, p. 246—based on "La Pie Piegrèche" of Levaillant; Cayenne.

Cissopis bicolor VIEILLOT, 1818, Nouveau dictionnaire d'histoire naturelle, nouv. éd., vol. 26, p. 417, pl. M33, fig. 2—Guiana and Brazil.

Cissopis minor TSCHUDI, 1846, Fauna Peruana, Aves, p. 211—Peruvian woods = Chanchamayo or Junín region; Mus. Neuchâtel.

B [ethylus] medius BONAPARTE, 1850, Conspectus generum avium, vol. 1, pt. 2, p. 491—[British] Guiana; Berlin Mus.

Río Seco, 1 ♂, 2 ♀; Chamicuros, 1 ♂, 1 ♀; Chayavitas, 1 ♂; Puerto Indiana, 1 ♂, 1 ♀; Apayacu, 1 ♂; mouth of Río Curaray, 4 ♀; Orosa, 1 ♂, 1 ♀; Nuevo Loreto, 1 (?); Sarayacu, 1 ♂; Santa Rosa, 1 ♂; mouth of Río Urubamba, 1 ♂, 1 ♀; Perené, 2 ♂; La Merced, 2 ♂; Tulumayo, 1 ♂, 1 ♀; Pozuzo, 1 ♂, 1 ♀; Río Tavara, 1 ♂; Astillero, 2 ♂; La Pampa, 1 ♀, 1 (?); Candamo, 1 ♀.

I have little to add to my former comments (1930, Field Mus. Nat. Hist., zool. ser., vol. 17, p. 456) on this species. I have examined 125 specimens from Colombia, Ecuador, Perú, Bolivia, western Brazil, Venezuela, and British Guiana without finding any characters by which to recognize any additional forms in this assemblage.

Thirty-two birds from southeastern Brazil (Bahia and Goyaz to Santa Ca-

tharina) and Misiones, Argentina, have longer tails and, on average, longer wings and larger bills, and have the dark mantle extending noticeably farther posteriad, and thus amply substantiate the distinction of *C. s. major*.

Additional records are from Pebas, Jeberos, Yurimaguas, Moyobamba, Río Ucayali, Huachipa, Vista Alegre, Puerto Bermúdez, Garita del Sol, Monterico, Chiquimayo, Marcapata, Río Cadena, and San Antonio. The Academy of Natural Sciences of Philadelphia advises me that specimens in that institution add San Juan (Chanchamayo), Huacamayo, and Saposoa to the list.

Schistochlamys melanopis grisea Cory

Schistochlamys atra grisea CORY, 1916 (Aug. 10). Field Mus. Nat. Hist., ornith. ser., vol. 1, no. 10, p. 346—Rioja, Perú; ♀; Chicago Nat. Hist. Mus.

This form ranges down the eastern side of the Central Andes from Huarandosa to the Marcapata district. It is recognizable by its light-colored throat and forehead (brownish rather than blackish), with the frontal area tending to merge rather gradually into the gray of the crown which usually has noticeable indications of dark shaft-streaks; also by its large size, in which it agrees with *olivina*, and by its relatively dark general coloration.

Peruvian records of this bird are from Marcapata, Cosñipata, Maranura, Huiro, Potero, and Idma, and the Academy of Natural Sciences of Philadelphia advises that specimens there add San Juan (Chanchamayo), Tamborapa, Saposoa, and San Ignacio to the list. There is a record from Lechugal published by Taczanowski (1884, Ornithologie du Pérou, vol. 2, p. 458) which I believe is open to question. Taczanowski was not certain of the identity of the specimen (from the Raimondi collection) and said merely that it appeared to belong to this species. His description of it, moreover, shows various differences from that which he gave in a preceding paragraph for the immature plumage of this species and does not accord with any specimen that I have seen. In fact, I am unable to place it as certainly applicable to

any tanager or finch, one or the other of which it must be. As far as other available evidence shows, no member of the present species crosses the Andes to the Pacific slopes, and none is to be expected to occur in the semiarid coastal region of the Río Zurumilla near Lechugal.

Examination of representative series of the various forms of *melanopis* has suggested the desirability of modifying the present concept of the group. While the number of specimens available from the three Guianas is not large, those I have indicate that *m. melanopis* is confined to this region. Possibly it may be found to follow the distribution of so many Guianan birds and reach the north bank of the Amazon in the neighborhood of the Río Jamundá, but at present there is no evidence that it does so. At any rate, the Guianan material now before me is recognizably distinct from a good Venezuelan series and equally so from lower Amazonian (south bank) birds, with the exception noted that in western British Guiana, approaching the neighborhood of Mt. Roraima, affiliation with the Venezuelan population is apparent.

The principal difference to be noted between true *melanopis* and the Venezuelan birds is in the distinctly browner forehead and throat of *melanopis* and the blacker hue of the same area in the Venezuelan birds. Both are relatively light and dull slaty gray on the upper parts, and relatively light gray on the under parts, although in these particulars there is some variation throughout the species. It might be thought that the brownness or blackness of the facial area was a matter of fading or freshness of the specimens, but this is true only to a limited extent. Birds in any part of the whole specific range that are in notably abraded plumage are likely to show the facial markings browner than examples in unworn dress, but the latter, regardless of the antiquity of the specimens, appear not to have altered through the years. Specimens taken in 1885 are just as black-faced as others secured in 1938. Old Bogotá-skins (since Colombian birds belong to the Venezuelan form) are likewise

matched by much more recently collected material.

This Venezuelan form, for which the name *aterrima* must be revived (*Schistochlamys atra aterrima* Todd, 1912, Ann. Carnegie Mus., vol. 8, p. 203—Guarico, Estado Lara, Venezuela), has the deepest black head of any of the known forms, and, although it may be approached in that respect by occasional specimens of other subspecies, most of the specimens are easily recognizable on that character alone. In size, it averages only slightly larger than *melanopis*.

The Matto Grosso form, *olivina*, is larger than either *melanopis* or *aterrima* and is equally dull on the upper parts, although apparently a little darker. One specimen from Campanario, southern Matto Grosso, is very dark on the back with a tinge of brown giving a noticeable clouding effect that is not equaled in any other specimen at hand. The facial markings are brown as in *melanopis* to which *olivina* bears the closest resemblance. There is an occasional tendency for the dark forehead to blend into the gray of the crown as in the Peruvian *grisea*, but usually the definition is fairly sharp. The back, breast, and flanks are lighter than in *grisea*. Bolivian birds are referable to *olivina*.

On the south bank of the lower Amazon, there is still another population that does not fit into any of the named subspecies. To present its characteristics, it may be named as follows.

Schistochlamys melanopis amazonica, new subspecies

TYPE: From Santarem, Rio Tapajoz, Brazil. No. 428965, American Museum of Natural History. Adult male collected August 7, 1931, by Alfonso M. Olalla.

DIAGNOSIS: General coloration of back, breast, and sides darker and clearer bluish slate than in *melanopis* and *aterrima*; clearer than in *olivina* and *grisea*. Forehead, sides of head, and throat blacker than in *melanopis*, *olivina*, and *grisea* but not so deeply black as in *aterrima*.

RANGE: South bank of the lower Amazon, extending southwestward to extreme northeastern Matto Grosso (Santa Rita

do Araguaia) and eastward and southward to Maranhão and Goyaz.

DESCRIPTION OF TYPE: Forehead and anterior part of crown to near the posterior border of the orbit, sides of head (including sides of occiput), chin, throat, and a broad pectoral space Fuscous \times Fuscous-Black; remainder of upper surface Dark Green-Blue Gray, rather sharply delimited from the dark area of the crown; lower breast, sides, sides of neck, flanks, and thighs lighter than Pale Green-Blue Gray, with a faint continuation of this lighter tint separating the sooty region of the sides of the head from the darker gray nuchal space; center of belly white; under tail-coverts gray with white margins. Wings brownish black, with outer margins of secondaries and tertials near the color of the back and broadly rounding the tips of the tertials; outer margins of primaries, except outermost, narrower and paler gray, becoming duller and somewhat brownish towards the tips; outermost primary with a hair-line margin of drab; most of upper wing-coverts the color of the back; primary-coverts and alula blackish with outer margins dark blue-gray; bend of wing, under wing-coverts, and inner margins of remiges white. Tail blackish, with outer margins gray; outer three rectrices with broad white terminal bars and some subterminal encroachment by the gray of the outer margins; three median pairs with gray tips and but little suggestion of apical white. Bill (in dried skin) with tip black and base bluish white; feet black. Wing, 85 mm.; tail, 80; exposed culmen, 14; culmen from base, 17; tarsus, 21.5.

REMARKS: Females similar but possibly averaging slightly smaller.

Mr. Todd writes me that, subsequent to his earlier conclusion (1922, Ann. Carnegie Mus., vol. 14, p. 482) that Venezuelan birds are inseparable from "*atra atra*" = *m. melanopis*, he became convinced that his *aterrima* could still be maintained while the lower Amazonian population was recognizably distinct, by reason of darker gray general coloration and a more extensive dark area on the pileum. He noticed little difference in the depth of hue of the anterior parts of the head, and

he placed the lower Amazonian birds with the French Guianan examples, of which, however, he had only one that was adult.

With six adults from the three Guianas and several other specimens that have acquired some recognizable parts of their

basally much darker. I am unable to associate this condition with season, and it may possibly be a continuous process.

The measurements are not sharply delimited, although *melanopis* and *aterrima* are smaller than the others.

<i>melanopis</i>	♂
<i>aterrima</i>	♂
<i>amazonica</i>	♂
<i>olivina</i>	♂
<i>grisea</i>	♂

WING	TAIL
77.5-81.0	71.0-72.5
80.0-86.0	70.0-78.0
83.0-89.0	76.5-84.0
84.0-89.0	79.0-87.0
83.0-89.0	75.0-85.0

adult plumage, I am unable to confirm Mr. Todd's observations with respect to the agreement of Guianan and lower Amazonian birds. The extent of blackish feathering on the crown is so extremely variable throughout the species that I have been unable to use it as a criterion. Even the degree of transition between the crown and the gray occiput is not perfectly constant, although it is somewhat serviceable in the case of *grisea*, as mentioned in an earlier paragraph. The darker and bluer dorsum of the lower Amazonian birds in comparison with *aterrima* is one of the characters evident in my series, but in this respect, the Guianan birds, *melanopis*, agree with *aterrima*, as both are represented in my series.

To recapitulate, of the three brown-headed forms, *melanopis* is the smallest and dullest backed, *olivina* is intermediate, and *grisea* is the darkest and bluest backed. The blackest-headed of all is *aterrima* which is also dull backed and relatively small. The darkest and bluest-backed of all is *amazonica* which is intermediate in the color of the head and throat.

The base of the bill in the various members of this species appears to be subject to considerable variation in respect to the extent and clarity of the pale coloration. In some examples there is only a relatively small area a little lighter than the more terminal portion, but in others more than half of the bill is decidedly whitish. The rhamphotheca is deciduous, and that of the maxilla particularly (it is more rarely discernible on the mandible) may persist as a whitish plate reaching nearly to the tip of the bill before it is worn or sloughed off, leaving the newly uncovered surface

SPECIMENS EXAMINED

S. m. melanopis.—

FRENCH GUIANA:

Cayenne, 2 ♂, 1 ♀, 1 (?).

SURINAM:

Interior, 2 ♂.

BRITISH GUIANA:

Annai, 2 ♂, 1 (?).

S. m. aterrima.—

BRITISH GUIANA:

Kamarang River, 2 ♂.

VENEZUELA:

(Roraima, Paulo, Arabupu, Mt. Auyantepui, Ciudad Bolívar, Agua Salada de Ciudad Bolívar, Perico, Guanoco, Quebrada Seca, Guácharo, San Antonio, Santa Ana [Cumaná], Campos Alegre Valley, Ayacucho, Lalaja [Orinoco], Esmeralda, Savana Grande [Mt. Duida], Playa del Río Base, Valle de los Monos, and Campamento del Medio), 38 ♂, 27 ♀, 2 (?).

COLOMBIA:

Villavicencio, 3 ♂, 2 ♀, 2 (?);
Quitame, 1 ♂;
near San Agustín, 1 ♀;
Buena Vista, 1 ♀;
Maipures, 1 ♂, 1 ♀;
"Bogotá," 12 (?).

S. m. amazonica.—

BRAZIL:

Rio Tapajoz, Santarem, 10 ♂ (including type), 2 ♀, 3 (?);
Rio Madeira, Humaythá, 2 ♂;
Santa Rita do Araguaia, 1 ♂;
Goiaz, Fazenda Esperança, 2 ♂, 1 ♀;
Goiaz, 2 ♂, 1 ♀, 2 (?);
Rio Bonita, Fazenda Bejoy, 1 (?);
Maranhão, Codó, 1 ♀.

S. m. olivina.—

BRAZIL:

Chapada, 12 ♂, 1 ♀;
Cuyabá, 1 ♀;
Tapirapoan, 3 ♂, 1 ♀;
Campanario, 2 ♀.

BOLIVIA:

Prov. Sara, 2 ♂;
Mapiri, 2 (?);
Apolobamba, 1 ♂;
"Bolivia," 4 (?).

S. m. grisea.—

PERÚ:

Huarandosa, 3 ♀;
Perené, 1 ♂¹, 2 ♀;
La Merced, 2 ♂;
Uteuyacu, 1 ♂;
Chanchamayo, 1 ♀;
San Ramón, 2 ♀;

Santa Ana (Urubamba), 1 ♂, 1 ♀;
Chinchao, 1 ♀¹;
Vista Alegre, 1 ♂¹, 1 ♀¹;
Moyobamba, 1 ♂¹, 1 ♀¹;
Rioja, 1 ♀¹;
"Perú," 1 ♀.

¹ Specimens in Chicago Natural History Museum.